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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,321	06/29/2001	Preston J. Hunt	42390P11147	8383

7590 10/10/2007
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EXAMINER

POLTORAK, PIOTR

ART UNIT	PAPER NUMBER
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2134

MAIL DATE	DELIVERY MODE
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10/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/896,321

Applicant(s)

HUNT ET AL.

Examiner

Peter Poltorak

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 7, 10, 12, 20 and 29-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 7, 10, 12, 20 and 29-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's amendment received on 8/17/07 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

Response to Amendment

3. Applicant amendments addressed the 35 USC § 112 rejections cited in the previous Office Action that, as a result, has been withdrawn.
4. Claims 1-2, 7, 10, 12, 20 and 29-32 have been examined.

Claim Rejections - 35 USC 103

5. Claims 1-2, 10, 12, 20, 29 and 31 are rejected under 35 U.S.C. 103(a) as obvious over Huang (U.S. Patent No. 6571245) in view of Margolus (U.S. Pub. No. 20040143743), and further in view of Chan (U.S. Patent No. 6748538) or alternatively in further view of Bolosky (U.S. Pub. No. 20020194484).

As per claims 1, 10, 12 and 20, Huang (U.S. Patent No. 6571245) discloses a network synchronization of a client/server files (Fig. 8 and col. 11 line 62-col. 12 line 9).

Huang does not disclose generating client message digests at a client, the client message digests corresponding to client files stored on at the client, wherein each client message digest corresponds to each client file on the client, wherein the client message digest uniquely identify contents of the client files via unique fingerprints

corresponding to the client files, wherein the unique fingerprints are generated based on the contents of the client files by performing a cryptographic hash of the contents of the client files, wherein the client files are cataloged by the client message digests and generating server message digests corresponding to server files, each server message digest corresponding to a server file on a server, wherein the server is coupled to the client over a network.

Margolus discloses generating client message digests (MD4) at a client, the client message digests corresponding to client files stored on at the client, wherein each client message digest corresponds to each client file on the client, wherein the client message digest uniquely identify contents of the client files via unique fingerprints corresponding to the client files, wherein the unique fingerprints are generated based on the contents of the client files by performing a cryptographic hash of the contents of the client files, wherein the client files are cataloged by the client message digests, generating server message digests corresponding to server files, each server message digest corresponding to a server file on a server, wherein the server is coupled to the client over a network and matching duplicate files using corresponding message digests (Margolus [6-7]).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include generating, prior to synchronization, client message digests at a client, the client message digests corresponding to client files stored on at the client, wherein each client message digest corresponds to each client file on the client, wherein the client message digest uniquely identify contents of the client files via

unique fingerprints corresponding to the client files, wherein the unique fingerprints are generated based on the contents of the client files by performing a cryptographic hash of the contents of the client files, wherein the client files are cataloged by the client message digests, generating server message digests corresponding to server files, each server message digest corresponding to a server file on a server, wherein the server is coupled to the client over a network and matching duplicate files using corresponding message digests as disclosed by Margolus in order to determine whether to synchronize a client and a server. One of ordinary skill in the art would have been motivated to perform such a modification in order to avoid unnecessary transmission and duplicate-storage of files.

Since introducing Margolus' invention would alleviate only the problem of transfer duplicate client/server files, synchronizing the client files and the server files, if the client files contents and the server file contents do not match would be necessary in order to successfully accomplish client/server file synchronization taught by Huang.

6. Huang and Margolus do not explicitly disclose performing a post-synchronization match of the client message digests with the server message digests and if the client message digests, detecting one or more client files corresponding to one or more unmatched client message digests, and re-synchronizing the client files and the server files, the re-synchronization including copying the one or more client files to the server such that the client message digests and the server message digest are matched.

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However, the examiner points out that the limitation is implicit. It is clear that process of matching and synchronization client/server files does not end after a single implementation because the content of user's computers constantly changes, and any additional, subsequent synchronization, which inherently would involve matching, would read on a post-synchronization and re-synchronization.

Furthermore, computer operations can frequently be affected by various problems, e.g. network connection failure, computer bugs, multiple connections preventing access to a particular file (or a digest), etc. and as a result a double check and a repeat of a of computer tasks is well known in the art of computer science. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to perform a post-synchronization match of the client message digest with the server message digests and if the client message digests do not match the server message digests. One of ordinary skill in the art would have been motivated to perform such a modification in order to ensure the successful completion of the synchronization task.

7. Huang and Margolus do not explicitly disclose tagging the one or more client files but the limitation is at least implicit. Tagging is simply an concept directed to identification of a particular object for the purpose of a particular task to be performed on (or in some situations by) the object, and in order for the files to be synchronized they should be identified as files to be synchronized, especially since computer tasks, such as synchronizing, back up, etc., are not completed instantaneously (see Boothby et al. (US Patent No. 7209911) for example).

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Thus, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to tag the one or more client files. One of ordinary skill in the art would have been motivated to perform such a modification in order to indicate the files for subsequent synchronization.

8. As per claims 2, 29 and 31 the ordinary artisan would recognize that new files are frequently created on client (and a server) and, as a result, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to add client file contents that are missing on the server to the server given the benefit of including new files in synchronization process.

9. Claims 7, 30 and 32 are rejected under 35 U.S.C. 103(a) as obvious over Huang (U.S. Patent No. 6571245) in view of Margolus (U.S. Pub. No. 20040143743), and further in view of Chan (U.S. Patent No. 6748538) or alternatively in further view of Bolosky (U.S. Pub. No. 20020194484).

Huang in view of Margolus disclose synchronizing files using message digests, as discussed above.

10. Huang in view of Margolus do not disclose combining the message digests into a single message digest.

Chan teaches combining the message digests into a single client message digest (Chan, col. 3 line 45- col. 4 line 7).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine message digests into a single message given the benefit of ensuring the integrity of the message digests.

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11. Similarly, Bolosky discloses combining the message digests into a single client message digests (manifest, Bolosky, [7]).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to combine message digests into a single message given the benefit of a increased efficiency of evaluating multiple digests.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Chase Jr. (U.S. Patent No. 5974238) discloses file synchronization between a handled computer and a host computer, wherein each file is represented by a signature (e.g. checksum) that uniquely identifies the file.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of


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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571) 272-3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on (571) 272-3811. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


10/3/07


KAMBIZ ZAND
SUPERVISORY PATENT EXAMINER